CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 30TH SEPTEMBER 1890.

40th Issue.

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National Oceanic and Atmospheric Administration

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INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

Inspectorate General of Customs, Peking, 31st December 1870.

SIR,

- I.—It has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly report containing the result of his observations at.......upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.
- 2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—
- a.—The general health of......during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.
 - b.—Diseases prevalent at.....
- c.—General type of disease; peculiarities and complications encountered; special treatment demanded.
 - $d. \\ \text{Relation of disease to} \left\{ \begin{aligned} &\text{Season.} \\ &\text{Alteration in local conditions--such as drainage, etc.} \\ &\text{Alteration in climatic conditions.} \end{aligned} \right.$
 - e.—Peculiar diseases; especially leprosy.

f.—Epidemics $\begin{cases} \text{Absence or presence.} \\ \text{Causes.} \\ \text{Course and treatment.} \\ \text{Fatality.} \end{cases}$

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking. I have committed to Dr. Alex. Jamieson, of Shanghai, the charge of arranging the Reports for publication, so that they may be made available in a convenient form.

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.--- * * * *

I am, etc.,

(Signed)

ROBERT HART,

I. G.

THE COMMISSIONERS OF CUSTOMS,—Newchwang, Ningpo,

Tientsin, Foochow, Chefoo, Tamsui,

Hankow, Tainan, Kiukiang, Amoy,

Chinkiang, Swatow, and

Shanghai, Canton.

Shanghai, ist February 1894.

SIR,

In accordance with the directions of your Despatch No. 6 A (Returns Series) of the 24th June 1871, I now forward to the Statistical Department of the Inspectorate General of Customs, the following documents:—

Report on the Health of Chinkiang, pp. 1-3;

Report on the Health of Newchwang, pp. 16, 17; each of these referring to the year ended 30th September 1890.

Report on the Health of Ichang, pp. 4-6;

Report on the Health of Swatow, pp. 18, 19; each of these referring to the half-year ended 30th September 1890.

Report on the Health of Hoihow (Kiungchow) for the ten months ended 30th September 1890, pp. 7, 8.

Report on the Health of Tamsui and Kelung for the three years ended 30th September 1890, pp. 9-15.

I have the honour to be,

SIR,

Your obedient Servant,

R. ALEX. JAMIESON.

THE INSPECTOR GENERAL OF CUSTOMS, PEKING.

The Contributors to this Volume are:-

J. A. Lynch, M.D., M.CH.	Chinkiang.
E. A. Aldridge, L.M.&L.K.&Q.C.P.I., M.R.C.S.	Ichang.
WILLIAM KIRK, M.D., M.CH.	Hoihow (Kiungchow).
Alexander Rennie, M.B., C.M.	Tamsui and Kelung.
W. Morrison, M.B., CH.M.	Newchwang.
HENRY LAYNG, M.R.C.S., L.R.C.P.	Swatow.

Dr. J. A. LYNCH'S REPORT ON THE HEALTH OF CHINKIANG

For the Year ended 30th September 1890.

METEOROLOGICAL TABLE, September 1889 to September 1890.

			w	IND.			BARO	METER.	Тнекм	OMETER.	R	AIN.
Month.	No. of Days N. to E.	No. of Days E. to S.	No. of Days S. to W.	No. of Days W. to N.	No. of Days Variable.	No. of Days Calm.	Highest.	Lowest.	Highest.	Lowest	No. of Days.	Quantity.
1889.							Inches.	Inches.	۰	o		Inches.
September	14	8	1	3	4		30.42	29.75	96	58	10	4.92
October	7	9	•	2	12	1	30.63	29.87	83	40	13	7-47
November	10	13	6			1	30.84	29.95	67	35	4	1.24
December	7	3	1	9	11		30.93	30.19	57	25		
1890.												
January	15	2	1	6	7		30.96	30.10	54	27	4	1.18
February	14	6	•••	3	5		31.00	29.82	67	30	8	1.95
March	15	6		3	7		30.90	29.93	61	30	8	4.19
April	5	8	4	2	11		30.53	29.65	84	47	10	4.93
May	8	11	2		10		30.40	29.74	93	48	7	3.98
June	2	17	1		10		29.95	29.70	97	63	11	5-55
July	2	19	4	2	4		29.84	29.65	95	67	7	4.61
August	7	10		2	12		29.95	29.70	96	70	6	4.41
September	14	5	•••	1	10		30.16	29.80	90	60	2	2.42

Note.—Readings at 3 a.m., 9 a.m., 3 P.M. and 9 P.M.

During the past 12 months three births occurred among the foreign population of this port. The deaths were also three in number: a child, from acute tuberculosis; an adult, from small-pox; and an infant of three weeks old, from inanition.

This last was a curious case. The child was born at full time. The quantity and quality of the milk, the formation of the nipple and of the infant's mouth were quite normal; yet it was found impossible to induce it to take the breast. Artificial feeding proved a failure. Diarrhoa supervened, and the infant rapidly sank.

The following have been the chief cases of illness:-

Small-pox 4	Pneumonia
Typhoid fever 2	Laryngeal and bronchial catarrhs 5
Measles 4	Gout
Influenza 5	Tonsillitis 3
Acute tuberculosis 1	Summer diarrhœa 5
Malarial intermittent 1	Chronic diarrhœa 2

Three cases of small-pox were treated in March. In one the eruption was confluent, but the patient made an excellent recovery. He had been vaccinated in infancy; two faint cicatrices were visible. The other two were mild attacks of varioloid. On the first appearance of the outbreak the members of the Customs staff and most of the other foreign residents were vaccinated. It is needless to say that no freshly-vaccinated person was attacked.

A severe and rapidly-fatal case occurred in May:-

Miss A., 28, missionary, recently arrived from Yang-chou, where she had nursed a small-pox case, was seen on Friday, 9th May. Had been ill since Wednesday evening with fever and pain in the back. Temperature 102°. A few red spots of doubtful character on left arm and chest. Had not been vaccinated since childhood; two distinct marks.

On the 10th and 11th a copious papular rash came out, covering the whole body. The temperature kept at 104°. There was much præcordial pain, constant vomiting, sleeplessness and delirium.

On the 12th the temperature fell 1 degree, none of the other symptoms abating.

On the 14th the eruption had become vesicular, with large confluent areas. Throat very sore; tongue dry and black. Temperature 102°-103°.

On the 15th black patches of hæmorrhage began to make their appearance beneath the vesicles, chiefly on inner and outer surfaces of thighs. Temperature 101°-102°. Pulse 112, feeble. Little delirium.

On the 16th the hæmorrhagic patches had increased greatly in size, and were spreading on the trunk. Swallowing was extremely difficult and brought on hiccough. Pulse 120, regular, very feeble. Temperature 98°.

Next day she died.

The above case will be recognised as belonging to the variety known as "hæmorrhagic vesicular," the connecting link between confluent and "black" small-pox.

Towards the end of March influenza paid us a visit. The few cases among the foreign residents were not of a serious character. The treatment adopted consisted in rest and the administration of a placebo. Among the Chinese, however, it raged with considerable virulence and was the cause of many deaths.

The summer has been exceptionally mild, with cool nights throughout, and neither the health nor comfort of the residents was much affected by the heat. A severe epidemic of cholera is reported from Yang-chou; but in the immediate neighbourhood of Chinkiang the mortality

has been much smaller than in former years. It is a very remarkable fact that no case of Asiatic cholera has ever been recorded among the foreign community.

Cases of beriberi are met with every summer, though the disease does not seem to be very widely prevalent. Both the "wet," or acute, and the "dry," or chronic, forms are found. There is an impression, I think, that only adults suffer from this disease; but three fatal cases, which I saw in the summer of 1889, were all in children under 12 years of age. The symptoms of this curious malady form a perfect clinical picture of multiple neuritis. Moreover, there is little room for doubt that its essential cause is a specific micro-organism. Of course, it is impossible to verify such a hypothesis in China.

The following case of retained ovum may be of interest:—

Mrs. B., foreigner, multipara, was attended in her fourth confinement in April. She had gone a little past her full time, but felt sure the child was dead, as she had felt no fætal movements since the seventh month. After a few feeble pains the ovum was expelled entire. On tearing open the membranes, two sodden and shrivelled fœtuses, apparently of the fifth month, were found attached to a common placenta. The cords were remarkably long, and were tightly tied about the middle of their length in a veritable Gordian knot. The abnormal length of the cords, and consequent abnormal mobility of the fœtuses, had resulted in mutual strangulation. There was not the slightest evidence of putrefaction. The mother recovered without a bad symptom.

Dr. E. A. ALDRIDGE'S REPORT ON THE HEALTH OF ICHANG

For the Half-year ended 30th September 1890.

The following abstract is from the meteorological observations taken at the Custom House:—

METEOROLOGICAL TABLE, April to	September	1890.
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		THERM	OMETER.		Baron	ieter.	Rainfall.			
Month,	Highest.	Lowest.	Average Highest.	Average Lowest.	Highest.	Lowest.	No. of Days.	Quantity.		
	0	0	۰	0	Inches.	Inches.		Inches.		
A pril	90.0	45.5	74.5	57.0	30.32	29.40	13	8.01		
May	95.0	47.5	78.5	64.1	30.13	29.58	12	5.68		
June	101.5	64.5	86.4	71.4	2 9.80	29.51	8	4.44		
July	99.3	72.2	90.5	76.5	29.72	29.42	. 17	13.50		
August	99.5	69.5	92.7	76.0	29.86	29.56	9	3.24		
September	95.8	58.5	88.0	68.0	30.11	29.71	5	0.83		

The site of the town of Ichang (latitude, 30° 14′ 25″ N.; longitude, 111° 18′ 34″ E.), well above high-water mark, on the north bank of the River Yangtze, is a good one, so that drainage and other sanitary arrangements might be simply and effectually carried out. At present, however, the system adopted is worse than useless, for drains that leak on all sides are laid along the streets and are never flushed, except by heavy rain.

Foreigners reside outside the South Gate, and most of them enjoy a good river frontage; their houses are dry, well drained and may be considered healthy.

During the period under review the following cases among foreigners were attended:-

Ague 8	Influenza 7
Cholera	Hæmorrhoids
Muco-purulent ophthalmia 3	Hepatic congestion 2
Dysentery , 2	Ulcers of leg I

The above list is not satisfactory for such a small community. Though malarial poisoning was not absent, it fortunately was only productive of a fever of a mild and intermittent type;

whereas among the native population it very frequently caused remittent fever of severe character.

The case of a very old resident in China presented the symptoms of Asiatic cholera. He had been accustomed to drink water unboiled and unfiltered. Had painless diarrhoa two or three days, and sleepless nights. When seen, vomiting and purging had been going on two hours; the body was cold and damp; temperature subnormal; pulse, feeble and running, 140; cheeks drawn in; tips of fingers bloodless; vomit and stools characteristic; thirst; pains in limbs; restlessness, and apprehension of impending death. Spirits of camphor in full doses, a little brandy and acidulated effervescing drinks were administered; sinapisms over heart and calves of legs were applied; and, later on, ½ grain of morphia was injected. Reaction set in well, with only a slight relapse after five hours. On the third day vomiting and diarrhoa occurred after taking some hot soup. Recovery was interrupted by hepatic disturbance, and was followed by a crop of large boils, which formed an almost complete belt round the body at the level of the epigastrium.

Dysentery was treated by a large dose of ipecacuanha, preceded by opium. In the first case it was contracted while travelling down the river; in the second, the patient had been working among foul-smelling, wet silk, and, supposing he had diarrhœa, took two pills and an enema before applying for relief.

The influenza epidemic, which reached Ichang in April, differed only from that which I personally experienced and witnessed in London at the beginning of the year in the mildness of the chest symptoms, which never indicated more than slight bronchial inflammation. There were observed here, in one case or another, the same sudden invasion and rapid rise of temperature, frontal headache, conjunctival injection, sore throat, epistaxis, earache, severe aching of bones and general prostration amounting to inability to turn over in bed, abdominal pain and subsequent debility.

The summer has been exceptionally mild and pleasant, but, as often noticed at the river ports, such a season does not necessarily prove healthy; rather, indeed, may the reverse be expected. The natives affirm that there has not been so high a rate of mortality among them for upwards of 20 years. They have suffered greatly from malarial fevers, which have been extremely fatal; from the fact that whole households have been attacked, these fevers have naturally been considered contagious. But beyond influenza and a few cases of small-pox, nothing of that nature has been observed. Native treatment seems to have been almost useless, the administration of a necessary simple purgative in cases seen having been neglected. At the Shan-t'ang a large quantity of native medicines and as many as 20 to 30 coffins daily were given away; the great necessity for the latter certainly did not speak well for the efficacy of the drugs supplied. Foreigners did much good by bestowing quinine on the sick they came in contact with, and it is to be regretted that the knowledge of such a specific against malaria is not more general among the well-to-do Chinese, who are by no means backward with their money in showing practical sympathy with their suffering neighbours.

The heavy rains during July supplied plenty of moisture to the growing rice; in addition, the small reservoirs for storing water from the hills were allowed to empty themselves for irrigation purposes, and the crop was good. The wet weather was succeeded by an unusually dry August and September, the rainfall being only 3.24 and 0.83 inches respectively, and hence there was a general drying up of the paddy fields, which lie at the back of the town, between

it and the hills. This low ground, though quite a narrow belt, is probably the chief source of the malaria which attacks residents here. The epidemic of influenza may have had some share in producing the susceptibility to malarial influence.

The Church of Scotland Mission lately erected a small hospital in the city, and opened it shortly after my arrival, last March. There are a male and female ward, out-patient department, operating room and dispensary. The attendance has been good, the applicants numbering upwards of 3,000 during the six months. In August and September nearly half the patients who sought relief suffered from malarial fevers or their sequelæ, which were often severe—anæmia (partaking of the pernicious type), enlarged spleen (often the so-called ague-cake), hepatitis, jaundice, ascites and ædema of lower limbs being frequent. Cases of dysentery and cholera have been comparatively rare. Leprosy has not been met with, and elephantiasis only twice. Foul ulcers and skin affections, mostly parasitic, though often of a low, tubercular nature, have constituted a large proportion of the diseases treated.

DR. WILLIAM KIRK'S REPORT ON THE HEALTH OF HOIHOW (KIUNGCHOW)

For the Ten Months ended 30th September 1890.

SINCE my arrival in Hoihow—in November 1889—the health of the foreign community has been good. No deaths occurred, and there were few cases of serious illness; excepting a short visit from the influenza epidemic, no other epidemic or endemic disease prevailed. No case of cholera was reported, a circumstance rather unusual. Several minor accidents and cases for operation came under my notice, but few of particular interest.

The weather was favourable to health, the summer months unusually mild and the nights comparatively cool. The two hottest days were the 3rd August and the 3rd September, the thermometer standing at 95° and 94° respectively. The usual afternoon thunderstorms, accompanied by much rain, commenced early in the spring and were of frequent occurrence throughout the summer. These heavy showers are a great boon, serving as they do to cool the atmosphere and to clear from the drains, sewers, etc., the accumulations of sewage and other offensive matters which are allowed to collect there.

Dysentery and diarrhea approaching dysentery were almost entirely absent, probably due to the fact that there was no excessive range of temperature.

In the winter and early in the spring the influenza epidemic made its appearance, but in a comparatively mild form. Many natives, especially soldiers in barracks and people living in crowded districts, were attacked, but few deaths were reported.

The usual symptoms were slight fever, headache, pain in the back and limbs, great depression and general weakness, slight cough and sore throat. The treatment I adopted consisted of a few days' confinement to the house, attention to the bowels, antipyrin for the fever and pain and an expectorant for the cough.

In March a missionary was brought from the interior suffering from an attack of pneumonia, affecting both lungs.

He had already been ill seven or eight days, was much emaciated and profoundly exhausted. The temperature for the first few days ranged from 104° to 105°; the pulse rapid and very weak. At times he was delirious. The usual symptoms were present, and the physical signs were clearly marked. Under the usual treatment and careful nursing he did very well; but it was only after a prolonged visit to Macao that his health and strength were fairly restored.

An intractable form of skin disease of the scrotum and parts about came under my notice during the hot months of the summer.

The case at first appeared to be one of local erythema, due probably to the friction of the dress producing a chafe or to the rubbing together of the two surfaces of skin. The symptoms then present were simply diffuse redness, itchiness and tingling and a slight serous discharge. As treatment, mildly astringent and sedative lotions and dusting powders of various kinds were tried, but without the desired result. This condition of affairs lasted for six weeks, when the disease took on a new aspect. The redness

became more intense; the skin sodden; there was much pain and tenderness on the slightest movement; the orifices of the sebaceous glands were much enlarged; and a copious, ill-smelling, oily discharge was substituted for the previous serous oozing. Different applications were again tried, but the disease baffled all treatment, and it was only when the cool weather set in, three months later, that the symptoms began slowly to subside.

The only surgical case of any interest is the following:-

During the New Year celebrations, when there was much cracker-firing and gun practice, a coolie was brought to me suffering severely from the effects of a gunpowder explosion. The gun, a smooth bore, muzzle-loader, had been fired once, and preparations were being made to fire it again. The charge, simply powder, was being rammed home, when it suddenly went off. The gunner was thrown several yards distant, and lay on the ground mutilated and insensible. He was badly injured in many places, but the left arm and hand suffered most. Most of the structures on anterior part of lower third of arm and palmar surface of hand were torn away. The radius and ulna, splintered in many places, were here and there exposed, and fragments of the ramrod and other foreign matters were deeply embedded in the wounds. After freeing the parts from the broken leaves, which his comrades had used to arrest the hæmorrhage, and from as much as possible of the powder and other foreign substances, I thoroughly cleansed with carbolic lotion, sutured where a suture was possible, and dressed with carbolic oil. With the addition of iodoform, this dressing was repeated at intervals during the following four weeks. The case did remarkably well; but owing to the prolonged rest, the great destruction of tissues and the resulting cicatrix, the wrist joint became firmly ankylosed.

The appended abstract is taken from the Custom House meteorological tables:—

METEOROLOGICAL TABLE, January to September 1890.

	THERM	OMETER.	RA	AIN.	Barometer.				
Month.	Maximum.	Minimum.	Number of Hours.	Quantity.	Highest.	Lowest.			
	٥	۰		Inches.	Inches.				
January	75	53	127	3.69	30.35	29.92			
February	88	61	14	0.25	30.36	29.76			
March	85	55	55	1.23	30.34	29.87			
April	93	61	32	7.21	30.23	29.80			
May	94	75	64	9.57	30.00	29.79			
June	93	76	35	4.04	29.94	29.74			
July	93	76	14	1.92	29.96	29.70			
August	95	74	20	5.15	29.98	29.75			
September	94	66	61	7.46	30.00	29.68			

DR. ALEXANDER RENNIE'S REPORT ON THE HEALTH OF TAMSUI AND KELUNG

For the Three Years ended 30th September 1890.

DURING the period under review the health of the foreign community has been fairly satisfactory, with the exception of the usual prevalence of malarial fever. The summer of 1890 has been very cool, the thermometer on no occasion registering over 95°, while in 1888 and 1889 a temperature of 99° or 100° was reached on several days. In spite of the moderate temperature, however, the average amount of sickness prevailed during the summer months. As a general rule, the frequency and intensity of diseases of malarial origin may here be estimated by the degree of solar heat; but this standard is liable to be modified by the amount of rainfall preceding the hot period and also by the extreme variations between the daily and nightly temperatures. This latter factor would seem to determine the attacks of fever experienced here in late autumn, when the weather is dry and bracing, but when the range of variation between the day and night readings of the thermometer sometimes exceeds 20°.

As in former years, the disease has been almost confined to residents at the port. The immunity enjoyed by residents in Twatutia may be explained by several causes:—

- rich crops of sugar cane, rice, indigo, etc., so that every patch is cultivated and no waste land is to be found in the neighbourhood of the Settlement. In the immediate neighbourhood of the port, on the contrary, vegetation is rank, banyan trees thrive on the hillside, with a dense undergrowth of shrubs and creepers, while the surrounding country presents large tracts of uncultivated ridges, with well-watered paddy fields between.
- 2. The Nature of the Soil.—Beneath the surface soil of the plain sand extends to a considerable depth. Artesian wells have been bored to a depth of 118 feet without encountering rock, penetrating a 30-foot layer of sand, and under that a bed of clay. The soil is therefore porous, and surface water quickly drains off. The volcanic soil of the port, on the other hand, is, on the surface, of the nature of clay—stiff and tenacious after rainfall, hard and baked in dry weather, with cracks leading to the damp subsoil. It has now come to be pretty generally admitted that efficient subsoil drainage is the most important factor in rendering a malarial soil healthy.
- 3. Absence of Tidal Mudflats.—10 miles inland, where the town of Twatutia is situated, the tidal influence is slight, so that at low water there are no large tracts of exposed mud, as at the outlet of the river.

4. The Houses occupied by Foreigners are all of Two Stories.—Although the physical conditions above alluded to exercise an undoubted influence in securing a healthy environment, the condition of the dwellings must be regarded as still more important. Natives living in ordinary Chinese houses suffer to a somewhat less extent than their brethren living under similar conditions at Tamsui, but by no means present the contrast in this respect that well-housed foreigners do when compared with those occupying bungalows at the port. During the two years 1888 and 1889, among 18 foreigners residing at Twatutia only two cases of fever came under my observation, and these but slight; whereas during the same period at Tamsui every occupant of a one-storied house suffered from one or more attacks. Of course, it may be said that the field of observation here is too limited to enable any wide generalisation to be made, but so far as our experience goes it amply confirms the truth of this fact, so well recognised elsewhere.

During the past decade views as to the essential cause of malarial diseases have considerably changed, but prophylaxis and treatment remain the same. Whether we hold that malaria is a "telluric poison" of a gaseous nature, or that it acts in virtue of a "living ferment," the fact remains that the maximum of danger is in the evening and early morning, and that the influence of the morbific agent diminishes as elevation above the level of the ground increases.

During the past three years I have, in the treatment of fevers, made extensive trial of antipyrin and antifebrin, and have reason to be well satisfied with the results. Although, unlike quinine, they exert no specific influence, they are invaluable in the sudden access of fever in intermittent and remittent attacks, accelerating the sweating stage and relieving the oppressive head symptoms. During the past summer I was called to three cases of intermittent fever, where the temperature ranged from 106°.5 to 107°. In from 10 to 15 minutes after the administration of antifebrin perspiration was profuse, and the temperature rapidly declined, with comparative comfort to the patient. In remittent cases I find it a good rule to administer a dose whenever the thermometer registers over 103°, and follow up with a full dose of quinine on the consequent fall of temperature, provided the ordinary remissions are not well marked. Among Chinese from the mainland I occasionally come across a fatal form of fever, where remission is exceedingly slight or imperceptible, with a persistent temperature of 104° or 105°. The patient has not been exposed to the sun, nor does he present symptoms of enteric fever. He has usually been five or more days under native treatment, is exceedingly wakeful and occasionally delirious. Such are probably cases of remittent fever where, from neglect of proper treatment at the outset, the characteristic remissions are lost. At this stage quinine is absolutely without effect. An occasional dose of antifebrin affords considerable relief, and, with the administration of hypnotics, constitutes the only efficient medicinal treatment. In 6-grain doses, dissolved in 40 minims of rectified spirit and then diluted, the action of antifebrin is prompt and reliable. Thus administered I have not observed toxic symptoms except in one or two instances, where too frequent repetition of the dose produced slight cyanosis and feeble pulse. In cases of neuralgia and brow-ache of malarial origin antipyrin is usually more efficient in relieving pain, the patient continuing to take small doses of arsenic.

Where quinine is not taken in solution, I think a decided preference should be given to tabloids or gelatine-coated pills. Their action is prompt as compared with pearl-coated pills, which are apt, as I have seen in subjects of feeble digestion, to pass through the system unabsorbed.

During April and May of 1890 many cases of influenza occurred among the natives, but most of the foreigners escaped. The leading symptoms were fever, ranging up to 103° or more, ushered in by chilliness and muscular pains and followed by catarrhal symptoms, chiefly bronchial, and much depression. The average duration of the disease was about seven days. The headache and lumbar pains, so well marked in cases in Europe, were by no means prominent symptoms—in fact, the disease more resembled an attack of malarial fever, with bronchial catarrh superadded. The natives were rather at a loss to account for the nature of the disease at the outset, as at this season of the year cases of fever are not common, and chest complaints unusual.

During the period under review three births and one death were recorded. Three deaths also occurred among non-residents.

1. Death from Fracture of the Skull.—C. A., aged 26, Norwegian sailor. At 3 A.M. on 13th March 1888 arrived by rapid boat from Kelung, where he had been injured on the previous day. It appears that during a scuffle he had fallen down the hold of a ship, alighting on his head among iron rails. At 9 A.M. his condition was as follows:—Face flushed; skin hot and dry. Temperature in axilla 104°.8; pulse 120; respiration 48. Patient almost unconscious. Pupils equal and abnormally sensitive to light. Coughs occasionally; no phlegm expectorated. Is very restless; when touched he commences to push with his hands and to kick off the bedclothes, then tosses to and fro and keeps aimlessly feeling his genital organs—a most persistent symptom. On the scalp, over the right occipital region, is a contused wound 2 inches long, running from the vertex backwards. Pressure here causes intense pain, so, in a less degree, pressure along the spine. Fracture of the skull suspected, but not ascertained. Dulness and crepitation over the base of the right lung from the fifth rib downwards. Heart sounds loud all over the chest. No fracture of the ribs.

6.30 P.M.—Pulse rapid and feeble. Temperature 103°.2. Patient quiet. Sweating. Slight stertor and puffing of the cheeks. Has taken a little nourishment. Bowels moved after taking 2 drops of croton oil.

14th March.—Somewhat improved. Respiration less rapid. Temperature 102°. Crepitation over the left side of the chest. Patient drowsy, but easily roused, when great restlessness is manifested—tearing the bedclothes and throwing his arms about.

- 9 P.M.—Temperature 101°. Pulse 110. Has taken nourishment frequently.
- 15th March.—Has passed a good night. Can reply to simple questions. Complains of pain in the head and left side of body. Ideas confused.
- 6 P.M.—Has relapsed into unconsciousness. Breathing slow and stertorous. Pulse irregular. Eyes insensible to light, covered with film of mucus; right pupil dilated. Loss of power in left arm and leg.
- 16th March.—Temperature 101°. Quite unconscious. Right pupil much dilated. When stimulated moves right arm feebly.

6 P.M.—Complete paralysis of limbs. Laboured breathing.

Died at 11 P.M.

Postmortem Examination.—On removing the scalp much effused blood found in occipital region, especially towards the right side. For a space of 2 inches there is separation of the suture between occipital and right parietal bones, and also slight separation of the suture between occipital and right temporal bones. A linear fissure runs transversely across the superior angle of the occipital bone. Much effused blood found between the dura mater and the temporal bone, especially over the petrous portion. The whole right side of the brain on its outer and under aspect is bruised. Signs of inflammation are visible in the cortical substance of the temporo-sphenoidal lobe, which contains a little pus mixed with blood. Left side of brain apparently healthy. No disease of ventricles or other parts. Both lungs much congested. Large amount of mucus in the bronchi. Heart healthy. Left ventricle empty; right ventricle contains some dark blood. Contents of abdomen healthy, with exception of the spleen, which is enlarged and softened.

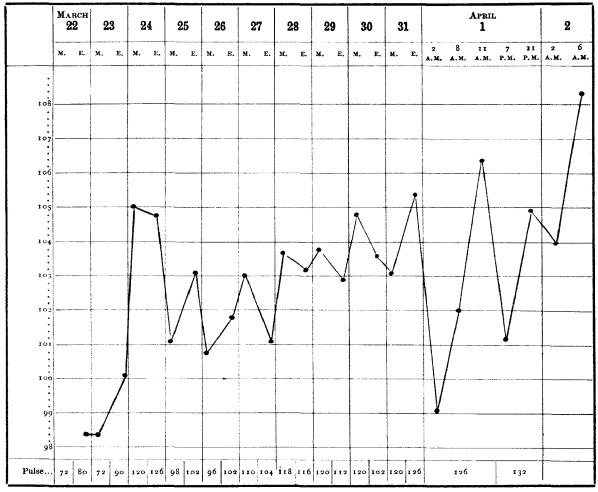
Remarks.—Death evidently resulted from fracture of the skull, accompanied by extravasation of blood, bruising, and inflammation of the brain substance on the right side. The symptoms observed during life were, primarily, those of irritation of the cortex of the cerebrum and its membranes, and congestion of the lungs. On the day preceding death a short period of reaction, followed by symptoms of compression, modified the symptoms of the earlier stage. The restless and violent movements of the limbs pointed to extensive irritation of the motor area. On the day preceding death the left hemiplegia and dilatation of the right pupil localised the lesion more precisely in the right hemisphere.

2. Death from Cholera.—At 7 P.M. on 20th July 1888 I saw G. S., aged 34, engineer on board a steamer arrived from Amoy. Patient stated that he had been suffering from looseness of the bowels for about five days, this having commenced during the stay of the steamer in Hongkong. He attributed the cause to some German beer he had drunk there. On his way up the coast he improved somewhat and was able to be on duty; but some hours after leaving Amoy for this port he was seized with violent pains in the bowels and diarrhæa, which persisted until the arrival of the vessel here, some 12 hours afterwards. The exact character of the motions he had not observed, but stated they were watery. When I saw him the skin was cold, eyes sunken, face pinched and voice feeble. Patient, however, expressed himself as feeling much better. Bowels not moved for over an hour. He was removed to bed, but by this time cramps were setting in, and one characteristic rice-water stool was passed. Small doses of iced brandy were administered from time to time and retained, while hypodermic injections of morphia, sinapisms and friction were employed to relieve the pains. Patient rallied somewhat at 8.45, but gradually sank, and died at 10 the same evening.

The deceased had lived in China about two and a half years, and had always been a careful liver. Whether the exciting cause may have been as he surmised it is difficult to say, but free drinking of iced beer is unsafe in hot weather. I have several times seen such an indulgence followed by diarrhea and cutting abdominal pains. For a few days subsequent to this death two foreign members of the crew suffered from slight diarrhea, which was undoubtedly of nervous origin, and well illustrated the influence of the mind on the functions of the body.

3. Death from Puerperal Fever.—The patient, a primipara, underwent a normal, but very tedious, labour. No retained placenta or membranes. On the evening of the second day the temperature rose to 101°.2, and reached 105° on the following morning. In spite of the high temperature the strength was well maintained until the afternoon of the tenth day, when a series of rigors, followed by corresponding rises of temperature, led up to a fatal termination on the morning of the twelfth day (temperature 108°.4). On the morning of the third day there was considerable abdominal tenderness, which, however, disappeared the same day after free movement of the bowels. Antiseptic injections were used from the outset, and the lochia were normal, but rather scanty. The leading symptoms were headache and discomfort from the high temperature; the patient was otherwise free from pain, and the mind remained clear until the last day.

The source of the septicæmia I could not trace. During her stay in China (a period of 14 months) the patient had not suffered from malarial fever. I append a chart of the course of the disease:—



4. Death from Heat Apoplexy (doubtful).—The patient was an engineer, apparently about 40 years of age and of good physique. When I saw him on board ship, on 24th June 1890, he was suffering from alcoholism. He had delusions; was sleepless, restless, but not violent. Alcohol was prohibited, and sedatives administered. On the following day, when the steamer left for Kelung, he had slept and was much more composed. It appears that he gradually improved, and on the morning of the 28th went on duty. About 9 A.M., however, the old delusions returned, and the patient kept aimlessly wandering about the decks until ordered to retire to his room, which he soon left and lay down in the alley-way. He seemed to sleep until 1.20 P.M., when the man on watch observed that the breathing was heavy, and immediately called assistance. Death occurred shortly afterwards. Those present agree in stating that the body was intensely hot and remained so for some time after death; unfortunately, no more exact temperature record was made.

Whether or not the deceased indulged in a fresh debauch on the morning of his death is not known; but on the supposition that high body temperature existed, it is just possible that he had incurred heat apoplexy, an accident to which at this season of the year his condition would have rendered him peculiarly liable.

Work in the native hospital has been carried on as actively as before, and the number of admissions has steadily increased. Distance precludes many from taking advantage of the institution—a drawback which the present railway extension in the island will greatly tend to remove. As it is, many come a distance of five or six days' journey, especially such as are anxious to undergo operation for the removal of tumours.

Owing to the introduction of foreign machinery and appliances, accidents during the past three years have been more numerous. On the railway track, which is frequented as a public pathway, a few fatal accidents have occurred, chiefly in the case of deaf or blind persons who have inadvertently stepped in front of a train. One or two serious accidents in the saw-mills, due to clothing getting entangled in the wheels, served to show those more immediately connected with machinery the necessity of adapting their clothes to the foreign pattern, especially in the narrower cut of the sleeves. When we remember that until four years ago the natives were quite unacquainted with railways and complicated machinery, and consider the callous manner in which the average Chinaman handles dangerous instruments and explosives, the wonder is that accidents are not more frequent—in fact, foreigners who have been employed in European workshops observe that the Chinaman is remarkably fortunate in this respect.

Almost every year, at some part of the border, warfare is carried on between the Government and the aborigines. In the autumn of 1888 the fighting was of an unusually severe nature, and many Chinese were killed and wounded. The savage, as usual, took advantage of the thick cover, avoiding the open, so that hand-to-hand fighting did not take place. Concealed, he waits until his enemy is within easy range, takes careful aim, and after firing quickly crawls a few yards from the spot, so that, if the shot be returned, his whereabouts may not be known. Should the wound inflicted not prove fatal, he despatches his victim with the knife. For fighting purposes the border savages now regard their bows and arrows as obsolete; they are well provided with jingals and old muzzle-loading rifles, chiefly obtained by barter from the border Chinamen. Their gunpowder comes from the same source, and as it is a scarce commodity the savage does not readily waste a shot. On the present occasion the approaches to a village were studded by the savages with sharp-pointed spikes of bamboo carefully covered by the grass, so that not a few of the Chinese soldiers sustained severe penetrating wounds of the feet and legs.

On the 2nd September 22 of the wounded arrived by steamer from Pinam, the seat of war, on the east coast. The injuries comprised:—

The wounds were eight days old, and as they had been neglected in the interim the fetor was almost unbearable. 13 submitted to the removal of bullets or fragments of bone—an operation rendered, in most cases, rather difficult on account of the small and irregular character

of the shot, the depth of penetration and the pockets caused by the burrowing of pus. The shot varied in weight from 35 grains to about an ounce, was of irregular shape, consisting of fragments of pot metal and hammered pieces of lead, which nevertheless penetrated deeply on account of the close range—usually about 20 yards. One shot, which had entered the neck, was found deep in the tissues beside the sixth dorsal vertebra, while an irregular piece of metal, 1½ by ¾ inch, and weighing 6 drachms, had carried away the bridge of the nose and embedded itself in the superior maxilla. The patients who underwent operation made good recoveries. Of the others, one died from a compound fracture of the leg, which had not been set or dressed for eight days; another patient died from tetanus the day after arrival, the bullet having perforated the ball of the right thumb and shattered the proximal phalanx of the left.

I append a meteorological table for the 12 months ended 30th September 1890, for which I am indebted to Mr. Harbour Master Stevens. The rainfall for this period was 73.40 inches, which is a large amount as compared with most other ports, but small when compared with that of Kelung, which for the same period amounted to 144.86 inches, 54.47 inches having fallen between 1st October and 31st December.

METEOROLOGICAL TABLE, October 1889 to September 1890.

·			WIND.	***		W	EATHE	З.	Baro	METER.		THERM	OMETER.	
Month.	No. of Days N. to E.	No. of Days E. to S.	No. of Days S. to W.	No. of Days W. to N.	No. of Days Variable.	No. of Days Fog.	No. of Days Rain.	Rainfall.	Highest Reading.	Lowest Reading.	Highest Reading.	Lowest Reading.	Solar Rad. Max.	Ground Rad. Min.
1889.								Inches.	Inches.	Inches.	۰	o	c	c
October	8	2			21		11	4.42	30.26	29.76	95.0	62	160	61
November	21	2			7		20	9.34	30.48	29.97	80.0	56	145	54
December	19	2	•••	•	10	1	12	2.52	30.45	30.03	76.0	47	145	46
1890.														
January	19	2		2	8		21	10.76	30.43	29.95	73.0	43	145	41
February	13	6		3.	6	5	7	1.98	31.39	29.80	77.0	49	144	47
March	23	•	•	4	4	8	19	14.47	30.49	29.95	80.0	45	154	44
April	8	4	I	6	11	3	6	2.51	30.23	29.87	87.0	48	155	45
Мау	14	4	2	2	9		13	7.07	30.10	29.83	87.0	63	157	60
June	1	6	6	I	16		8	4.21	30.04	29.85	92.5	69	166	69
July		10	11	I	9		7	7.41	30.05	28.65	94.0	72	162	72
August		5	8	1	17		7	3.77	30.06	29.75	95.0	72	163	75
September	24	I			5		13	4.94	30.05	29.73	92.0	66	165	64

DR. W. MORRISON'S REPORT ON THE HEALTH OF NEWCHWANG

For the Year ended 30th September 1890.

Month.		eroid METER,	v	No. of Days on which the Temperature fell below							THE ?	DAYS FEMPE ABOVI	RATUE	R IEG	of Days on which Rain fell.	Iotal Amount of Rainfall.	of Days on which Snow fell.	of Days on which there were Dust Storms.	Days on which High Winds blew.
	Highest,	Lowest.	°F. -15	°F. 10	°F. 0	°F. 10	°F. 20	°F. 32	°F. 50	°F. 60	°F. 70	°F. 80	°F. 85	°F. 90	No. of	Total An	No. of	No. of Ds were	No. of Dr
1889.	Inches.	Inches.	-													Inches.			
October*							1	4	7	19					2	2.00	•••		I
November*							4	24	2						2	0.46	1		3
December	30.60	30.00				3	22	6									4		6
1890.											}								
January	30.70	30.00			9	14	6	2							•••		2	I	3
February	30.78	29.80	٠			7	11	10			·						2	I	7
March	30.50	29.97				1	4	20	6								•••	3	10
April	30,60	29.55			•••			2	24	4					2	0.40	I	I	9
May	30.30	29.50			•••	•••			3	12	14	2			1	0.50			4
June	29.90	29.35		•…						1	19	6	4		3	1.50		3	5
July	30.00	29.47	•••							5	14	fı	1		12	2.97			2
August	29.85	29.56				•••			•••	2	14	10	5		7	3.91			3
September	30.20	29.70		•					•••	15	15			•••	3	0.87		I	4

^{*} Barometer out of order.

The health of this community has been in a satisfactory condition during the year. During the earlier half of the year we had a number of cases of influenza, but neither its extent nor its severity would entitle the disease to be ranked as epidemic.

At the beginning of the open season we had a period of drought, limited to the lower reaches of the Liao. In the central and northern parts of the country more rain fell. The

crops were abundant and the people exceptionally prosperous. The dry period generally lasts from about the middle of April to the middle of June. Drought and dust are not the only discomforts. During the same period we have daily winds from the south-west of a blustering and unpleasant nature. This wind is purely local, being limited to the lower portion of the plain through which the Liao flows, though on other parts of the coast, where the physical conditions are similar, a like phenomenon may be observed. Each day this wind begins at sunrise and dies away with the close of day. The evenings, as a rule, are quite still. The influence of this meteorological condition on health is obvious: colds and sore throat are prevalent during the earlier part of the period. Exercise in the open air is circumscribed, though so necessary in a place where life has such a tendency to stagnate. The class I have observed to suffer most are convalescents recovering from operations or from severe sickness. Special precautions have to be taken to prevent their too early exposure.

Among the native population there has been much less poverty and sickness, no doubt owing to the commercial prosperity of the town.

There have been five births during the year—two males and three females,—all healthy and normal. Four deaths occurred from the following causes:—

Chronic bronchitis.

Acute alcoholism.

Influenza.
Typhus fever.

DR. HENRY LAYNG'S REPORT ON THE HEALTH OF SWATOW

For the Half-year ended 30th September 1890.

For the meteorological table I am indebted to the kindness of Captain C. H. PALMER, Harbour Master.

	METEOROLOGICAL	TABLE,	April	to	September	1890.
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				Wı	ND.						Baron	METER.			Т	HERM	ometi	ER.		Wrather.			
Month.	of Days to E.	of Days	to S.	Days	₩.	of Days	to N.	Days	ri.	st by 9.	t by 9.	at by at.	t by nt.	st by	st by	st by 1t.	st by at.		ages.	Dаув п.	fall.	of Days Fog.	
	No. of N. to	No. of	E. C	No. of	2	No. of	W. to	No. of D	Call Call	Highest Day.	Lowest Day.	Highest by Night.	Lowest by Night.	Highest by Day.	Lowest Day.	Highest Night.	Lowest Night.	Wet Bulb.	Dry Bulb.	No. of D Rain.	Rainfall.	No. of Fog	
	D. h.	D.	h.	D.	ħ.	D.	h.	D.	h.	Inches.	Inches.	Inches.	Inches.	۰	o	°	o	°		D. h.	Inch.	D. h.	
A pril	4 18	14	12	2	12	1	6	7	0	30.204	29.758	30.150	29.860	85.0	63.0	81.0	62.0	65.0	72.0	0 23	2.60	7 0	
Мау	7 0	I 2	18	2	18	2	12	6	0	30.150	29.730	30.120	29.780	85.0	68.o	81.0	70.0	77.9	78.3	3 1	4.59	3 0	
June	2 12	12	18	9	18	1	0	4	0	30.030	29.800	30.050	29.840	88.0	75.0	87.0	74.0	77.2	80.0	3 12	10.30		
July	1 6	3	18	16	18	3	6	6	0	30.100	29.580	30.050	29.660	90.0	75.0	86.0	75.0	78.4	82.1	3 10	12.54		
August	2 15	4	12	13	0	6	0	4	18	30.070	29.750	30.030	29.780	91.0	80.0	85.0	78.0	78.9	83.5	0 9	1.51		
September	6 6	17	12	2	6	1	12	2	12	30.100	29.780	30.080	29.820	87.0	71.5	82.5	70.0	75.1	79-4	2 4	3-49		

The summer has been exceptionally cool and dry; westerly winds were more frequent than usual. There has been a marked absence of heavy gales.

Considerable progress has been made in reclaiming foreshore. No cases of sickness have occurred that could be traced to these operations.

In April some few additional cases of epidemic influenza occurred among the foreign residents, and all through the summer, now and again, a case has been seen on board one of the steamers.

Malarial fevers have been more frequent. Several residents suffered from severe attacks of remittent fever. The natives living in the villages on the south side of the river appear to have been the greatest sufferers, many deaths occurring. Owing to the difficulty of keeping

Chinese patients suffering from fever closely under observation, one's means of obtaining reliable evidence was small; but the general story was one of daily fever, more severe at night, with an absence of all history of a cold stage.

In the early months of the summer dysentery was very prevalent among the natives, three cases occurring among the foreign residents.

One case of purpura hæmorrhagica in a native came under treatment, and one of purpura simplex, associated with severe acute dysentery, in a European child 8 years old.

The health of the foreign children, with the single exception quoted above, has been, as usual, remarkably good.

No cases of cholera have arisen in the port. One officer of a steamer arrived here from Shanghai with cholera. He was admitted into the Seamen's Hospital on 28th August, and discharged on 5th September.

Among the minor complaints, tonsillitis and febricula have occurred with the greatest frequency. The number of cases of diarrhea and colic has been below the average.

A case of belladonna poisoning, caused by the local application of glycerine of belladonna and belladonna and iodine ointment to an inflamed testicle, was seen on board a coasting steamer. The patient had been using the application for about six days. He complained of having passed a wretched night; that his mouth and tongue were as dry as a piece of cardboard; and that he could scarcely see. The condition of the mouth was aptly described by the patient himself. Vomiting had taken place once. Both pupils were widely dilated, and there was great restlessness and nervousness, but no rash was anywhere visible. The application of belladonna was at once discontinued, and all symptoms completely disappeared in 48 hours.

There have been four births and no death.

11.—SPECIAL SERIES:

No	. 1.—Native Opium	Published	1864.
,,	2.—Medical Reports: 40th Issue (First Issue, 1871)	,	1894.
,,	3. —Silk	,,	1881.
,,	4. —Opium	,,	1881.
,,	5.—Notices to Mariners: Twelfth Issue (First Issue, 1883)	,,	1894.
,,	6.—Chinese Music	,,	1884.
,,	7.—Instructions for making Meteorological Observa- tions, and the Law of Storms in the Eastern Seas	,,	1887.
,,	8.—Medicines, etc., exported from Hankow and the other Yangtze Ports, with Tariff of Approximate Values	,,	1888.
,,	9.—Native Opium, 1887	,,	1888.
,,	10.—Opium: Crude and Prepared	,,	1888.
,,	11.—Tea, 1888	,,	1889.
,,	12.—Silk: Statistics, 1879–88	,,	1889.
,,	13.—Opium: Historical Note; or the Poppy in China	,,	1889.
,,	14.—Opium Trade: March Quarter, 1889	,,	1889.
,,	15.—Woosung Bar: Dredging Operations	. ,,	1890.
,,	16. —Chinese Jute	,,	1891.
,,	17.—ICHANG TO CHUNGKING, 1890	,,	1892.
j 2	18.—Chinese Life-boats, etc.	,,	1893.